

CHOLESTEROL TRANSPORT GENE

Patent Number: WO0132184
Publication date: 2001-05-10
Inventor(s): BROOKS-WILSON ANGIE;; COOK MARK;; ATTIE ALAN D;; PIMSTONE SIMON;;
GRAY-KELLER MARK P;; HAYDEN MICHAEL R
Applicant(s): WISCONSIN ALUMNI RES FOUND (US)
Requested Patent: WO0132184
Application Number: WO2000US30109 20001101
Priority Number(s): US19990162803P 19991101; US20000215564P 20000630
IPC Classification: A61K31/64
EC Classification:
Equivalents: AU1452601, EP1227818 (WO0132184), A3
Cited Documents: WO0034461; WO9857649; WO0055318; WO0018912

Abstract

Methods and compounds are disclosed for lowering serum LDL levels or serum cholesterol levels, or for reducing the transport of cholesterol from the gut to the blood or the lymph, based on the observation that a gene known as ABC1 is necessary in order for cholesterol to be transported from the intestinal lumen into the bloodstream. A mutant chicken phenotype, known as the WHAM chicken, characterized by low levels of serum LDL and reduced transport of cholesterol, facilitated the discovery of this function of the ABC1 gene. Techniques which act to inhibit ABC1 activity in the cells of the intestinal wall will result in lower serum cholesterol.

Data supplied from the esp@cenet database - I2

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
10 May 2001 (10.05.2001)

PCT

(10) International Publication Number
WO 01/32184 A2

(51) International Patent Classification⁷: **A61K 31/64**

(CA). BROOKS-WILSON, Angie; 3250 East Mall,
Vancouver, British Columbia V6T 1W5 (CA).

(21) International Application Number: **PCT/US00/30109**

(74) Agent: SEAY, Nicholas, J.; Quarles & Brady LLP, P.O.
Box 2113, Madison, WI 53701-2113 (US).

(22) International Filing Date:

1 November 2000 (01.11.2000)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(30) Priority Data:

60/162,803 1 November 1999 (01.11.1999) US
60/215,564 30 June 2000 (30.06.2000) US

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

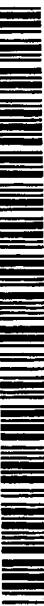
(71) Applicant: **WISCONSIN ALUMNI RESEARCH
FOUNDATION [US/US]; 614 Walnut Street, P.O. Box
7365, Madison, WI 53707-7365 (US).**

Published:

— *Without international search report and to be republished
upon receipt of that report.*

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(72) Inventors: ATTIE, Alan, D.; 1906 Vilas Avenue, Madison, WI 53711 (US). COOK, Mark; 15 Kewaunee Court, Madison, WI 53705 (US). GRAY-KELLER, Mark, P.; 4558 Stone Wood Drive, Middleton, WI 53562 (US). HAYDEN, Michael, R.; 3250 East Mall, Vancouver, British Columbia V6T 1W5 (CA). PIMSTONE, Simon; 3250 East Mall, Vancouver, British Columbia V6T 1W5



WO 01/32184 A2

(54) Title: **CHOLESTEROL TRANSPORT GENE**

(57) Abstract: Methods and compounds are disclosed for lowering serum LDL levels or serum cholesterol levels, or for reducing the transport of cholesterol from the gut to the blood or the lymph, based on the observation that a gene known as ABC1 is necessary in order for cholesterol to be transported from the intestinal lumen into the bloodstream. A mutant chicken phenotype, known as the WHAM chicken, characterized by low levels of serum LDL and reduced transport of cholesterol, facilitated the discovery of this function of the ABC1 gene. Techniques which act to inhibit ABC1 activity in the cells of the intestinal wall will result in lower serum cholesterol.